

**EKSTRAKSI PROTOPORFIRIN IX DARI KERABANG TELUR PUYUH (*Cortunix cortunix*) DAN KOMPLEKSASINYA DENGAN Ni(II)**

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***EXTRACTION OF PROTOPORPHYRINS IX FROM QUAIL EGGSHELL (*Cortunix cortunix*) AND COMPLEXATION WITH Ni(II)***

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**ABSTRACT**

*Protoporphyrin IX is a color pigment found in the quail eggshell. Due to the nature of the natural dyes that easily fade, it is necessary to do the complexation with metal ions. This study aims to determine the optimum condition of the reaction complexes of protoporphyrin IX with Ni(II) metal ions using Response Surface Methodology (RSM) with 3<sup>3</sup> modified quadratic center composite design. Factors used are a variation of pH (X<sub>1</sub>), a ratio (X<sub>2</sub>), and reaction time (X<sub>3</sub>). The concentration of protoporphyrin IX obtained from extraction was 0.01% of the dried extract. The result of the Ni (II)-protoporphyrin IX adsorption shows a shift of 4 nm from protoporphyrin IX and 9 nm absorption from Ni(II) solution absorption. The optimum condition obtained at pH 3.16; ratio 1: 10,98; in time 65,98 minute through the 2nd order polynomial equation.*

**Keywords :** nickel(II), protoporphyrin IX, quail eggshell, response surface methodology